

# How to make Bar Soap

Using sodium hydroxide or lye

## INSTRUCTIONS:

Gather the following tools and equipment;

- ✦ A good quality scale (accurate) that weighs in ounces and at least up to two pounds
- ✦ A two quart glass jar, measuring cup or some glass container
- ✦ Two wooden spoons, slotted if possible
- ✦ Stainless steel or enamel, one gallon or larger, Kettle. (Never use aluminum! It will react with your soap mixture, ruining both soap and kettle.)
- ✦ A two cup plastic or glass measuring cup
- ✦ One stainless steel wire whisk, smaller is better
- ✦ Candy thermometer or meat thermometer (accurate) for 80-110 F
- ✦ One pair of well-fitting rubber gloves
- ✦ Safety glasses
- ✦ Plastic food storage containers or other containers that would serve as moulds for the finished product
- ✦ Two blankets
- ✦ Some vinegar on hand in case of splash from the lye

### **For best results keep in mind the following:**

Choose a well lighted work area. Non-aluminum surface, counter tops ok, can protect surfaces with news papers.

Plan to make your soap when you can be free from distractions and interruptions, allow approximately one and a half hours

Have all necessary ingredients at your disposal and organized  
Remember throughout the soap-making process, to handle lye with great care! Keep it out of the reach of children and pets. It is extremely caustic in dry or wet form, and will burn skin, blind eyes, remove paints and finishes, and redesign linoleum floors, probably stone as well. It has little effect on enamel, stainless steel, glass, copper, plastic rubber, or wood. In the event of a skin contact, flush with cool running water, and douse with vinegar immediately. In the event of a spill, put your rubber gloves on and mop the spill with towels or rags.

## STEP 1

- ✦ Put on your rubber gloves
- ✦ Weigh out 12 ounces of lye (sodium hydroxide) into the two cup plastic or glass measuring container. Be sure to account for the weight of your container
- ✦ Weigh 32 ounces (2 pounds) of **cold** water into the sturdy glass container. Be sure to account for the weight of your container
- ✦ Now it is time to mix the lye into the glass container of **cold** water. Put on your safety glasses. Because the lye will heat the water and the fumes will be released, it is best to do this

outside or under good ventilation. It is also wise to avert your face as much as possible to avoid inhaling the harsh and unpleasant fumes. These are harmful. They only last 30 seconds.

Add the lye to the water **slowly**, while stirring with a wooden spoon. As soon as all the lye is dissolved in the water, set it safely aside to cool.

## STEP 2

- ✦ Weigh out 24 ounces of coconut oil and 38 ounces of vegetable shortening into the metal kettle. Remember to account for the weight of your container. Melt these oils over a low heat, stirring frequently. As soon as they have melted, remove them from the heat and add 24 ounces of olive oil.

## STEP 3

- ✦ Keep your gloves on. This step involves getting the temperature of the lye to a range of 95 F to 98 F while at the same time getting the kettle of oils within the same temperature range. When both mixtures are within this range, combine them. Achieving this stage will require your full and careful attention.
- ✦ Use hot or cold water baths to either raise or lower the temperatures of the mixtures. There is a knack to doing this skillfully, and it comes only with practice.
- ✦ Now prepare your soap mold by greasing its sides and bottom with shortening.

**HINTS:** For a cold water bath, place your container of lye or kettle of oils into a sink holding an inch or two of cold water.

For a hot water bath, place your container of lye or kettle of oils into a sink holding an inch or two of hot water.

When taking the temperature of either lye or oils, be certain to stir the mixture before reading the thermometer. Heat and cold can localize, especially if you use hot or cold water baths in the sink.

## STEP 4

- ✦ This is the fun part! Wearing rubber gloves and safety glasses slowly pour a steady stream of the temperature correct lye into the temperature correct oils. Stir constantly in a relaxed circular motion until all of the lye has been added. By bringing the lye and oils into contact with each other, you are prompting

a chemical reaction called saponification. Saponification is the creation of soap.

## STEP 5

- ✦ Continue to stir for approximately ten minutes. Eventually you will notice a subtle change in the quality of your mixture. It will become slightly thicker and will seem more homogenized and creamy. These changes are very slight, but in time you will learn to recognize them.
- ✦ TRACING: This is when the soap mixture becomes thick enough to trace a design on the soap surface with dribbles of soap this is the stage at which it is recommended to add the scent oils and pour the soap into the mold.
- ✦ Personally, I prefer to catch the saponification process just prior to the tracing stage. At this earlier stage you can comfortably add scent oils, dried grains or botanicals without fear of the mixture becoming too thick.

## STEP 6

- ✦ If grains, dried botanicals, or colorants are to be included in your soaps, add them now. This is best accomplished by separating approximately two cups of unscented soap mixture and quickly whisking the dried goods into this small portion of soap until thoroughly mixed. Return this mixture to the soap kettle and stir.
- ✦ Now is the time to stir in the scent oils—do not linger! If you delay, you will have a kettle filled with soap that cooled too quickly. As soon as your oils have been incorporated, it is time to fill your plastic mold.

## STEP 7

- ✦ Put the lid over the warm and beautiful soap mixture. Set it in an undisturbed, warm place and cover well with many layers of blankets. Wool seems to do the best job. Allow the soap to sit undisturbed for eighteen hours to complete the saponification process

## STEP 8

- ✦ Remove the blankets and lid. You should now have a beautiful block of soap—firm, fresh, and fragrant. Allow it to sit uncovered for another eight to twelve hours before removing it from the box. To remove simply turn the box upside down and allow the soap to fall onto a towel or a clean work surface. If you have followed directions carefully, and if your scale and

thermometer are accurate, you should have a beautiful batch of homemade soap.

**QUALITY PROBLEMS:** If you have quality problems, you will notice a thin layer of oil on the top of your soap and crusty chalk like layer on the bottom. This malady is known as separation. If the separation is minor, you need only scrape off the top and bottom layers and discard them. The remaining soap should be fine. If gross separation has occurred, you will find more than a film of oil on top of your soap. It will look more like a pool of oil. In this case, you can be certain that your scale, thermometer or mathematical methods were in error. Unfortunately, if this occurs you will need to discard the soap or use it for laundry purposes.

#### **HINTS:**

Have your scent oils, dried botanicals, colorants, or grains at approximately 98 F. This will prevent a quick loss in temperature when they are added to the soap mixture. The plastic mold should be at 98 F too.

Use shortening to grease the sides and bottom of your mold. Though optional silicone bakery paper makes an excellent mold liner and will help prevent sticking. Lay it on top of the greased mold surfaces.

Individual bar soap molds are fun to work with. If you are interested in trying them, I recommend greasing them well. Also be certain to get them into an insulated place as soon as possible because small volumes of soap can easily separate if allowed to cool too quickly.